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Public-private collaboration: How private involvement can contribute to network performance

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Abstract

Traditionally, in infrastructure planning, private contractors are engaged at the end of the plan development stage on the basis of a request for proposals, after the conceptual design is finished and the main decisions have been made. They are responsible for final engineering and construction and, separately, for maintenance of the infrastructure. The government designs the project and pre-specifies the permitted impact of the design on the transport network and the environment. Early private involvement means that the private sector is involved earlier in the plan development stage and plays a role in the designing process. This can lead to added value for a project, the environment and the network in which the project is situated,, ranging from knowledge and expertise, to creativity and commitment.
In the Netherlands Rijkswaterstaat is responsible for the network management of the main road and waterway networks. The best way to govern a network is not to disturb it when it is functioning well. However maintenance, refurbishment and extension projects are being executed in Rijkswaterstaat's networks. For effective network governance it is essential to know at an early stage the expected disturbances from project execution, the duration of these disturbances and ways to reduce the disturbances. Early private involvement could potentially deliver this knowledge and help to adjust and to program relations between projects as part of network governance.
Several approaches for early private involvement have recently been developed in The Netherlands. In this paper an overview of these approaches will be given along with recent experiences from several cases. The approaches will be compared and discussed with respect to the way they can deliver added value for network governance and the specific conditions needed for this. It can be concluded that if conditions are set right early private involvement might be a useful instrument for delivering network performance.

Keywords: Network governance; infrastructure; project development; early private involvement; collaborative approaches; planning; public-private partnerships; construction market.

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1. Introduction

In the Netherlands, the Ministry of Infrastructure and the Environment is responsible for planning infrastructure. Infrastructure is always part of a larger infrastructure network. The optimal functioning of these networks is the core business for national network managers like Rijkswaterstaat (Rijkswaterstaat, 2010a, 2011). Network management can best be performed if a network is not disturbed when it is functioning. However, currently, projects are being executed in the infrastructure networks: regular maintenance, large scale refurbishment and renewal and the construction of network extensions. Although these projects are aimed at maintaining the functioning of the network, the realization of the projects disturbs the network.

For effective network governance it is essential to identify disturbances, their duration and disturbance reduction possibilities at an early stage. With this knowledge relations between different projects can be adjusted and programmed as part of the network management. Besides a network manager, Rijkswaterstaat is also responsible for the professional execution of projects in her networks including procurement of the construction market. The construction market has specific knowledge of and experience in construction execution and can identify and develop possibilities to govern and reduce impacts in specific contexts. The use of this knowledge and experience is essential to plan and program the different projects in the networks.

By applying early private involvement, the knowledge of the construction market can be used to improve network management. Early private involvement means the involvement of construction and maintenance industry parties early in the planning process, before the start of the execution, so before the start of procurement (pre-competitive) or through procurement (competitive). Private involvement is based on the balance between possible added value and risks of this involvement. After the contract award (post-competitive), the possibilities for involvement are limited by contract conditions. It is essential from a network governance point of view to line up these post-competitive contract conditions with the preconditions and expectations for effective network management.

In this paper several pre-competitive, competitive and post-competitive models of private involvement are identified and discussed in detail. The models are investigated for their possibilities to help timely deliver added value (information) for network management. Since most of the models have only recently been introduced, experiences are limited. Therefore a qualitative assessment of selected case-studies is chosen in which existing evaluative studies are taken as a basis. The document research is further supported by interviewing expert practitioners working at public or private parties involved in the case-studies. The paper is deliberately limited to the Dutch infrastructure planning practice. Although experiences discussed in this paper are specific for the Dutch context, the insights gained in this paper could be interesting and applicable to other countries as well.

2. Current practice of network management and private involvement

As stated before, Rijkswaterstaat is the Dutch national *network manager* for the main road and waterway networks (Rijkswaterstaat, 2010a, 2011). This role implies maximizing the use of available capacity of the network through traffic management and providing needed capacity in time as an infrastructure provider. Combining the roles of traffic manager and infrastructure provider is managed by programming (Busscher, Tillema, & Arts, 2010; Tak & Wijnen, 2007) of the planned maintenance, refurbishment and extension projects.

Rijkswaterstaat also has several roles in the planning and execution of projects; roles differ per stage of the planning lifecycle. In plan development, Rijkswaterstaat is responsible for designing and planning infrastructure projects to keep the network functioning at a certain level (maintenance projects) or to improve functionality (refurbishment and extension projects) as a *project manager*. The role of

professional project management implies (PMI, 2001) minimizing network disturbance, maximizing the planned improvement of capacity and keeping the impact of the project on its environment at an acceptable level. After the plan development, Rijkswaterstaat also procures the proposed projects to the market. Rijkswaterstaat uses the construction market to realize projects through a market transaction in its role as *professional client* (Elffers Felix Andersson, 2010b) for the market. Once this stage is completed, Rijkswaterstaat acts as a *contract manager,* overviewing the implementation of contract activities in the projects in its networks.

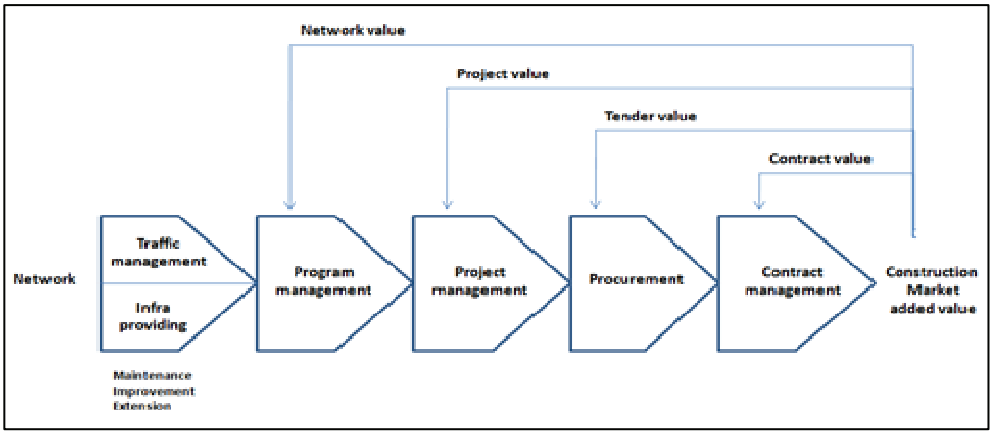

Fig. 1. Management roles in the network value chain and market added value

3. Potential added value and risks of early private involvement

From a government's perspective, early private involvement can have added value for network governance and for the planning and programming of projects (see Fig. 1). Through early private involvement detailed *information on the construction method and hindrance* of a project is available early in the process, which helps to make better-informed decisions and more realistic programming (*process control*). Practical market experience on design, construction and management and maintenance can also be used to improve projects from a '*life cycle perspectiv*e' (Lenferink, et al., 2008; Morledge et al., 2006). This refers not only to optimization of the different phases of a separate project, but also optimization between the different projects in the program. For network governance it is essential to get an early insight in the amount of disturbance to be expected, in the duration of this disturbance and possibilities to reduce this disturbance. Therefore specific knowledge about construction methods and their effects, before the actual starting of the work, is needed (Tak & Wijnen, 2007). Through their *conceptual creativity,* which is stimulated by competition, the private sector can provide a different perspective on problems and can provide mixed and integral solutions (Davies, et al., 2005; Kelly et al., 2004; Nijsten, et al., 2008).

Besides added value, early private involvement can also introduce additional risks. *Hampered competition* could be a result of early private involvement. In addition, it could lead to a more *complex process* due to the difficulty of simultaneously managing planning and private involvement processes (Arts et al., 2006; Bult-Spiering & de Wulf, 2006). As a result of the complex process transaction costs may rise. If these *transaction costs* are not fully reimbursed private interest can diminish over time. Furthermore, it is difficult to find the right incentives to prevent *opportunistic behavior* of both market and government (Bajari & Tadelis, 2006; Jensen, 1994; Shapiro, 2005).

The mentioned added values and risks are all related to network management. There are also other effects. Commercial firms have a more business oriented perspective on processes, which can help to professionalize governmental planning and decision making. Giving the market an early chance to propose solutions based on their specific knowledge and experience helps to develop a more dynamic construction market based on quality competition instead of prize competition. An additional risk is that early private involvement can result in a feeling of limited political or governmental freedom of choice.

4. Overview of (early) private involvement models

Three main categories of private involvement can be distinguished:

- *pre-competitive or non-competitive*, which is before procurement of a potential work;
- *competitive*, which is during procurement, performed according to European Procurement Rules[2];
- *post-competitive*, after a contract is awarded.

An overview of the instruments and models for early private involvement is given in figure 2, while table 1displays the main characteristics of the models.

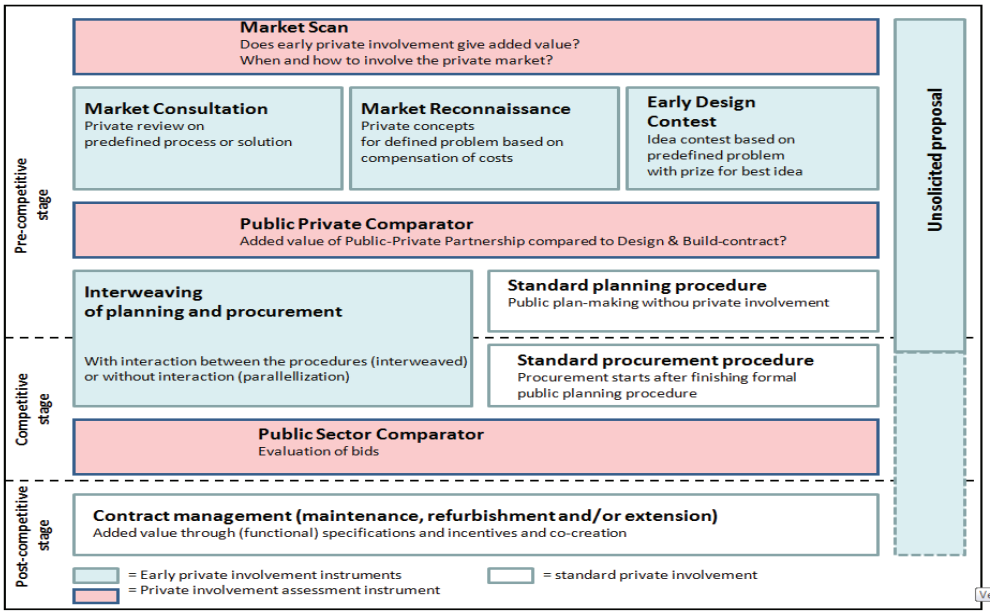

Fig. 2. Overview of private involvement models and assessment instruments

[2] European procurement rules are specified in Dutch national rules and in the Dutch national procurement law (in preparation, expected end 2011). See EC Directive 2004/18 for the European Procurement Rules.

Different assessment instruments are used by Rijkswaterstaat to make a balanced decision on how and when to involve private parties (Rijkswaterstaat, 2009a):

Market scan. This is an 'in-house' government analysis in which potential value for money is assessed, the potential market parties are identified and the market approach is determined. The scan should be carried out early in the planning process.

Public Private Comparator (PPC). This instrument is applied in the plan development stage to indicate added value of public-private partnerships over more traditional construction contracts like design-build.

Public Sector Comparator (PSC). The PSC is a quantitative instrument that compares the costs of private delivery with that of public delivery. Basically, the PSC is a public private comparator after the private bids have been made. The PSC functions as a last benchmark before the contract is awarded.

In Dutch practice several non-competitive instruments are applied like the market consultation, the early design contest, the market reconnaissance and the unsolicited proposal (Lenferink et al, 2011b).

The goal of a *market consultation* is to consult (pre-selected)[3] private parties about the feasibility of a proposed scope, technical solution or process worked out by the government (Rijkswaterstaat, 2006). It shows whether technical, financial, organizational, juridical or spatial pre-conditions would have the desired result. Specific market knowledge about construction methods, possible alternatives and their effects can give added value for network governance. The instrument is without any obligations for the participating governmental and private parties.

The *early design contest* is relatively unknown to infrastructure planning. The goal of an early design contest is to tempt private parties to generate creative solution by providing a price[4] incentive. The government requests solutions on the basis of a request for proposals in which a problem definition, requirements and conditions are formulated. The quality of the submitted ideas by private competitors is assessed by a jury. The best timing for a design contest is relatively early in the planning process.

The *market reconnaissance* is a typical Dutch instrument, only once applied in practice. It is an early design contest without price competition in which the goal is to get unique and feasible concepts from the private sector. The government provides a problem definition, a general scope and constraints and ambitions, which the private participants can use to develop and elaborate unique concepts. The reconnaissance requests private participators to deliver a detailed elaboration on technical and financial feasibility. In return, participators receive compensation for their engineering costs.

An *unsolicited proposal* is a private initiative in which a private party approaches the government unrequested with ideas, propositions or developed plans (Kroes, 2008; Regieraad Bouw, 2005; Veen, 2009). This private input can be used by the government for defining a project. A direct translation of an unsolicited proposal into an awarded contract for a work or a service is only possible if the proposal is truly unique[5]. Instead of a directly procured work, the private proposer can be rewarded by working out the idea or proposal through co-research and co-development.

Traditionally, procurement starts at the end of the plan development stage on the basis of a request for proposals. This is mostly after the conceptual design is finished by the government and the main decisions

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[3] In this way the instrument also assesses the private interest to get involved in the specified subject.

[4] The prize is explicitly not a payment for the proposed product and/or service. If the products and/or services in the early design contests are paid for by the government or rewarded with a contract for the realization, the European guidelines for procurement of works, supplies and services 2004/18/EU apply, see title IV (European Commission 2004).

[5] This means that the solution should be the only one possible for the problem and the solution can only be implemented by the party that offers the solution. In the construction industry this is normally not the case

have been made. The private contractor would then be responsible for making the final design[6] and for the realization and separately the maintenance of the infrastructure. This is the *standard procurement procedure*.

However, it is possible to start procurement before the end of the plan development (Mosey, 2009). The result is a parallel execution of the procurement procedure with the planning procedures, called *interweaving* or intertwinement (Arts, 2010; Arts, et al., 2006; AT Osborne, 2010; Valkenburg et al., 2008; Valkenburg & Nagelkerke, 2006). It provides the opportunity to develop creative solutions and gain insight in effects of proposed solutions during procurement, which can be used in the parallel planning and decision making. Interweaving can serve several goals: time gains, better risk and project control or creativity and early insight in execution impact (Lenferink et al, forthcoming).

Finally, in the overview of figure 2 also post-competitive instruments are mentioned relating especially to the management of contracts. These contracts might relate to the various stages of design, construction, maintenance and/or operation. In Dutch infrastructure planning especially design & build (db), Design-Build-Finance-Maintain (DBFM) and performance contracts are relevant. For a more extensive discussion about this see Lenferink et al (2011) and Leendertse et al (forthcoming). In this paper we focus on the pre-competitive and competitive instruments that might contribute to network performance. Table 1 provides an overview of the (pre-)competitive instruments discussed.

Table 1. Characteristics of non-competitive and competitive private involvement instruments

Model	**Market consultation**	**Early Design Contest**	**Market Reconnaissance**	**Interweaving**	**Unsolicited Proposal**
Goal	Opinions on government solutions or process	Best design for defined problem	Conceptual solutions for defined problem	Best quality (as specified) for a competitive prize	Ideas without a pre-defined problem
Timing	Early or later in planning stage	Early planning stage	Early planning stage	After stable scope in planning process	Depends on character of proposal
Scope	Related to specified government solution or process	Limited scope, usually specific	Broad scope, not specific	Functional and detailed specifications	Depends on character of proposal
Incentive	Future procurement of project	Prize Publicity Future procurement of a project	Cost compensation Future procurement of a project Publicity	Awarding of contract	Procurement of a project. Co-research & co-development
Typical government role	Program or project manager	Program or project manager	Program or project manager	Procurer and client	Network, program or project manager
Typical market role	Delivering knowledge and experience	Designer	Planner, designer and engineer	Designer, engineer , tenderer and contract executor	Planner and designer

[6] In the conceptual design as provided by the government, usually 50 to 70 % of the work is specified.

5. Practical experiences with the different models

In the following sections the practical experiences in respect to delivering added value for network management with the models will be discussed. This section is limited to the available models for private involvement used by the Dutch government in the pre-competitive and competitive stages. The practical experiences will be investigated in typical case-studies, which are displayed in table 2.

Table 2. Selected case studies

Model	Case	Time
Market Consultation	Urgency program improvement main road network	April 2009
Market Reconnaissance	Afsluitdijk renewal	2008 until 2009
Early Design Contest	Renovation Steel Bridges	2009
Interweaving	A2 passage Maastricht	2006 until 2009
Unsolicited Proposal	Rail connection Breda – Utrecht	2008, 2009

5.1 Case market consultation: Urgency program refurbishment main road network

Rijkswaterstaat is refurbishing and upgrading the main road network in the period 2010 until 2013. Thirty bottlenecks in the network have to be improved in a relatively short time in order to improve the traffic flow (in Dutch: "project spoedaanpak"[7]). To accelerate the realization of this program, Rijkswaterstaat has developed a new procurement approach for sixteen of these projects (Witteveen & Bos, 2010; Witteveen & Dorée, 2011). This new approach was the subject of a market consultation (Kenniscentrum PPS, 2005) in April 2009. First a general consultation with all interested market parties was conducted to inform the market parties about the intended process. Next, one-to-one in-depth discussions followed with selected parties (Rijkswaterstaat, 2009b; Elffers Felix Andersson, 2010a).

Potential added value and risks for network performance and management:

- One-to-one consultation gave open discussion with private parties about potential added value;
- Bundling separate projects (16) in procurement packages (6) gave accelerated procurement time;
- Bundling enabled the market to optimize execution disturbance between projects in the bundle;
- Strong financial outcome-based incentives in the MEAT[8] and contract directed this optimization;
- Strong pain/gain incentives for timely delivery resulted in timely delivery of all projects;
- Risk sharing arrangements reduced scope discussions during execution;
- Best value procurement led to creative solutions and better control (Rijt & Witteveen, 2011);
- The process took one month total and generated positive reactions due to low transaction costs;
- Keep equally informed market parties is difficult in individual consultation.

5.2 Case: Early Design Contest Renovation Steel Bridges

Rijkswaterstaat is responsible for the maintenance of 274 steel bridges, which need reinforcement. Traditional renewal of reinforcement is a complex process and causes considerable nuisance to road and waterway traffic. Therefore, in 2009, Rijkswaterstaat initiated a contest ("Renovation Steel Bridges"[9]) in order to generate smart ideas to reduce nuisance to road and waterway traffic (Rijkswaterstaat, 2010b). 165 ideas were submitted of which the ten best ideas were selected for a second round and rewarded with

[7] For the actual status of the project see www.rijkswaterstaat.nl: spoedaanpak 30 knelpunten.
[8] MEAT is the system of judging the offers based on Most Economic Advantageous Tender.
[9] The Dutch name of the design contest is "Minder hinder bij renovatie stalen bruggen".

one hundred thousand Euros for further development. The winner of this second round received a price of five hundred thousand Euros. In addition, if one of the selected ideas would be applied in practice in the upcoming five years, it would receive another five hundred thousand Euros.

Potential added value and risks for network performance and management:

- Strong publicity and a substantial prize led to many serious and creative ideas;
- The market indicated that a stronger incentive would be to make the prize a pilot project;
- The contest resulted in innovative market ideas to reduce disturbance in construction;
- The contest was broadly scoped: technical and process-oriented solutions;
- Many ideas were conceptual and needed investigation before application, partly due to the problem-oriented request and the reward for further development;
- Creativity needs protection by an intellectual property arrangement: the introduced open license system (CROW, 2009) was evaluated as crucial;
- The contest is an effective and low-cost way to relate many experts to a problem[10].

5.3 Case: Market reconnaissance Afsluitdijk

In 2008 and 2009 the market reconnaissance Afsluitdijk[11] was carried out (Afsluitdijk, 2009). The safety of the enclosure dam of the IJsselmeer was tested in 2005 to be insufficient. The government was urged to increase the safety of the dam. Simultaneously, national government appointed the Afsluitdijk as a showcase of Dutch water engineering and climate adaptation. Rijkswaterstaat and regional stakeholders carried out a joint market reconnaissance aimed at attaining creative integral concepts to realize national and regional ambitions. Eight consortia developed a coherent integral vision on the development of the Afsluitdijk and its surrounding area, including spatial design and technical, legal and financial feasibility.

This case provided lessons learned on network performance and management:

- Intense dialogues result in high government and market transaction costs (Lenferink et al, 2009);
- Cost reimbursement and intellectual property arrangements are needed to interest market parties;
- Concepts are more elaborated than in a market consultation or design-contest.
- A deliberate evaluation of potential added value and costs should be made.
- The integral, creative results contrast with usually mono-functional Rijkswaterstaat designs.
- Interaction with stakeholders in developing visions could later result in better process control.
- Key points of creativity are function combination (e.g. combined dike and sluices improvement) and adaptive building (e.g. staged improvement of the dike depending on climate development).

5.4 Case: Interweaving planning and procurement, A2 passage Maastricht.

The A2 passage through the city of Maastricht is a bottleneck in the road network and serves as a barrier between different neighborhoods of Maastricht. In 2003 the Minister of Infrastructure and local municipalities decided to develop a tunnel alternative as sustainable solution. In December 2006, parallel to the planning procedure, consortia were selected for a competitive dialogue to get the best plan within a predetermined budget. Based on their visions, three consortia were selected to elaborate integral plans. After formal public consultation in 2008, consortia could incorporate consultation results in their final bids. After contract award[12], the winning plan was transformed in a formal route decision (2010/2011) [13].

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[10] If per submittal 5 experts were involved the contest stimulated approximately 1000 experts (165 * 5) to think about the problem.
[11] The Afsluitdijk is part of the Dutch water defense system. It fundaments also the A 6 highway and contains two main sluices of the waterway system.
[12] The contract was awarded in June 2009 to the consortium Avenue 2 consisting of Strukton and Ballast-Nedam.
[13] For the actual status of this project see www.a2maastricht.nl.

This case of interweaving provides some interesting lessons (Sandee, 2009;Lenferink et al forthcoming):

- The best solutions consisted of integration of infrastructure with adjacent rural development;
- By interweaving committed bids can be used in planning and decision-making procedures;
- Stakeholder participation in procurement is needed to prevent changes after contract award;
- Participation conflicts with the competitive, confidential character of procurement;
- The long procurement process forced private companies to keep key personal for a long time on the project, resulting in high transaction costs;
- Conditions and constraints were specified in the process of development of solutions, providing freedom of design to the market;
- This made it more complex for government to manage level playing field between competitors;
- This model results in different process roles: government steps back and becomes facilitator, while contractors have more freedom and need to accept political dynamics becoming part of their commercial risks.

5.5 Case: unsolicited proposal rail-road corridor Breda - Utrecht

The A27 highway between Utrecht and Breda is an important north-south connection in the Netherlands. Rijkswaterstaat started a planning procedure in 2007 to increase capacity[14]. In the railway infrastructure network the connection between Utrecht and Breda is a missing link. The limited scope of the road infrastructure study and the missing railway connection inspired BAM, a Dutch construction company, and Goudappel Coffeng, a traffic engineering consultancy firm, to develop an unsolicited proposal for the corridor (BAM & Goudappel Coffeng, 2008, 2009). It proposed a combined realization of a new railway with the expansion of the A27 highway resulting in cost savings and possibilities for co-financing by the region. An independent commission concluded in 2009 the proposal unfeasible (Commissie Spoor A27, 2009). Due to pressure of local governments the proposal is still being examined (Littel, 2010) [15].

Potential added value and risks for network performance and management (Strukton, 2010):

- Unsolicited proposals infrastructure depend on substantial public investments.
- Planning and integrating unsolicited proposals in formal planning procedures is difficult;
- Translating unsolicited proposals to formal procurement is difficult under European regulations;
- Unsolicited proposals interact with running processes and have to deal with the “not invented here” syndrome (Poot, 2009);
- To deliver the right idea, at the right time to the right person is essential; other early private involvement models can help the market to get informed;
- Lobbying is the essential precondition to launch unsolicited proposals.

In paragraph three, a number of potential added values and risks of early private involvement in relation to network management were distinguished. In table 3 the realization of these added values and risks are summarized for the different cases.

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[14] For the actual status of the project see www.rijkswaterstaat.nl: A27: uitbreiding traject Lunetten - Hooipolder.

[15] Meanwhile, Rijkswaterstaat is continuing the planning process for expanding the A27 highway, under account for the possibility of bundling the road infrastructure with a possible future railway.

Table 3. Added value and risks of cases of early private involvement for network management

Private involvement model		Market Consultation	Early Design Contest	Market Reconnaissance	Interweaving of procedures	Unsolicited Proposal
Cases		**Urgency Program road refurbishment**	**Renovation Steel Bridges**	**Afsluitdijk Renewal**	**A2 passage Maastricht**	**Rail-road corridor Breda-Utrecht**
Added value	*Information about construction method and hindrance*	Yes, especially in one-to-one consultation. Inter project optimization through bundling appeared interesting.	Yes, the main target was to reduce hindrance by creative methods of execution.	Yes, elaborated plans had to be delivered	Yes. Information was also needed for stakeholder consultation.	Present, but not elaborated in detail.
	Life-cycle perspective	No, the request was for a process consultation	Lifecycle basis was requested in contest.	Yes, adaptive models were requested on Lifecycle basis.	Yes, as part of terms of requirement.	No, not described in proposal.
	Conceptual creativity	Limited. Mostly approval and detailing of government proposal	Yes. Many ideas needed further development before application.	Yes, active developing role of private party. New creative out-of-the-box ideas.	Yes, due to paralleled market design and early stage of planning process	Yes. Combination of rail and road was not developed by the government.
	Process control	Bundling and strong incentive mechanisms appeared key factors	Was not included in the request	Intense stakeholder interaction led to more supported solutions.	Yes. Procurement and planning regulations dictate process. Supported plan due to stakeholder interaction.	Limited information in proposal. Proposals are not regulated
Risks	*Hampering competition*	No, consultation is without obligations. Results were made public.	No, contest is without obligations. Results were made public .Protection of intellectual property through open licenses.	No, reconnaissance is without direct relation to procurement.	Interweaving uses competitive dialogue as procurement procedure	Depends on how proposals are incorporated in procurement.
	Complex process	No, consultation was not a part of procurement.	No, contest was not a part of procurement.	No, reconnaissance was not a part of procurement.	Yes, works with flexibility in planning and procurement regulations	Yes. Mostly functional combinations which ask for a redesign of the project planning process
	Transaction costs	Due to limited time, limited.	Limited by the guidelines of the request.	High. Reimbursement necessary.	High. Reimbursement necessary. Long transaction period.	Relatively low. Depends on level of elaboration.
	Opportunistic behavior	Yes, responsibility is limited	Yes, responsibility is limited	Yes, responsibility is limited	Bids with clear responsibilities	High, since the objective is to interest the government.

6. Discussion and conclusions

For efficient and effective infrastructure network management, disturbances through projects should be kept to a minimum. In the projects, government and market have different roles in the different stages and complementary knowledge and experience. In order to better steer on preventing disturbances in the

network, early private involvement can help to get the right knowledge available in time. Added value might relate to better information about construction method and hindrance, a better perspective on linking stages in the life-cycle, conceptual creativity in design, and improved project control. However, also risks might be involved affecting performance not only at project level, but also at network level. These risk include opportunistic behaviour, transaction costs, complexity of process or hampered competition. In all investigated models of early private involvement, a balanced mix of incentives should be considered depending on the expected results and the need to stimulate and interest private parties to deliver added value. These include a challenging request, a clearly defined process, protection of intellectual property and providing reimbursement of transaction costs.

Although most of the instruments are project-oriented, the cases of the urgency program road refurbishment and the renovation of the steel bridges show that the instruments are also perfectly suitable for programming between projects. Managing projects through program management could be a way to align the incentives of the different models and deliver more value to network management. At the program level, market parties get more freedom to pro-actively optimize project disturbances. This enables disturbances in the network to be identified and dealt with before they actually occur. Therefore it can be concluded that, although the experiences with early private involvement are limited, the cases show (as displayed in table 3) that if applied in the right way and at the right time in the process, early private involvement can really create added value to network management.

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